

SAFETY DATA SHEETS

This SDS packet was issued with item:

070911909

The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).

070911974 070911990 078545294

The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).

070911958 078586621

Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 11.21.2017

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Patterson Developer Solution

SECTION 1: Identification

Product identifier

Product name: Patterson Developer Solution

Product code: 070911958, 070911974, 070911909

Recommended use of the product and restriction on use

Relevant identified uses: Photographic solution

Uses advised against: Not determined or not applicable.

Reasons why uses advised against: Not determined or not applicable.

Manufacturer or supplier details

Supplier:

Canada

Patterson Dentaire Canada Inc.
1205 boul Henri-Bourassa West
Montreal, Quebec H3M 3E6
+1 514-745-4040

Emergency telephone number:

Canada

CHEMTREC

Within USA and Canada: 1-800-424-9300 (24 hours)

Outside USA and Canada: +1-703-527-3887 (24 hours)

SECTION 2: Hazard identification

GHS classification:

Skin irritation, category 2

Serious eye damage, category 1

Skin sensitization, category 1

Germ cell mutagenicity, category 2

Carcinogenicity, category 2

Label elements

Hazard pictograms:



Signal Word: Danger

Hazard statements:

H315 Causes skin irritation

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- H318 Causes serious eye damage
- H317 May cause an allergic skin reaction
- H341 Suspected of causing genetic defects.
- H351 Suspected of causing cancer.

Precautionary statements:

- P201 Obtain special instructions before use
- P202 Do not handle until all safety precautions have been read and understood
- P280 Wear protective gloves/protective clothing/eye protection/face protection
- P261 Avoid breathing dust, fumes, gas, mist, vapours or spray.
- P264 Wash any exposed skin thoroughly with soap and water for 15 minutes after handling.
- P272 Contaminated work clothing should not be allowed out of the workplace
- P308+P313 If exposed or concerned: Get medical advice or attention.
- P310 Immediately call a POISON CENTER or doctor
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P302+P352 IF ON SKIN: Wash with plenty of soap and water
- P332+P313 If skin irritation occurs: Get medical attention.
- P333+P313 If skin irritation or rash occurs: Get medical attention.
- P362+P364 Take off contaminated clothing and wash it before reuse
- P363 Wash contaminated clothing before reuse
- P321 Specific treatment (see Sections 4-8 of this SDS and any supplemental information on the product label).
- P405 Store locked up
- P501 Dispose of contents and container in accordance with local, regional, national, and international regulations.

Hazards not otherwise classified:

None

SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 7732-18-5	Water	75-85
CAS number: 7681-57-4	Sodium metabisulfite	<4
CAS number: 1310-58-3	Potassium hydroxide	<3
CAS number: 123-31-9	Hydroquinone	<2

Additional Information:

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret in accordance with the Canadian Hazardous Products Regulation and WHMIS 2015.

SECTION 4: First-aid measures

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Description of first-aid measures

General notes:

Show this Safety Data Sheet to the doctor in attendance.

After inhalation:

If inhaled, remove person to fresh air and place in a position comfortable for breathing. Keep person at rest. If breathing is difficult, administer oxygen. If breathing has stopped, provide artificial respiration. If experiencing respiratory symptoms, seek medical advice/attention.

After skin contact:

Remove contaminated clothing and shoes. Rinse skin with copious amounts of water [shower] for several minutes. Launder contaminated clothing before reuse. If symptoms develop or persist, seek medical advice/attention.

After eye contact:

Immediately rinse eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes. If eye irritation develops or persists, seek medical advice/attention.

After ingestion:

If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse mouth with water. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs, place on the left side with head down to prevent aspiration of liquid into the lungs. If symptoms develop or persist, seek medical advice/attention.

Most important symptoms and effects, both acute and delayed

Acute symptoms and effects:

Skin contact may result in redness, pain, burning and inflammation.

Eye contact may result in irritation, redness, pain, inflammation, itching, burning, tearing, corneal damage and loss of vision.

Dermal exposure may cause an allergic skin reaction. Symptoms may include irritation, redness, pain, rash, inflammation, itching, burning and dermatitis.

Delayed symptoms and effects:

Effects are dependent on exposure (dose, concentration, contact time).

Exposure may cause genetic defects. Effects are dependent on exposure (dose, concentration, contact time).

Suspected of causing cancer. Effects are dependent on exposure (dose, concentration, contact time).

Immediate medical attention and special treatment

Specific treatment:

In case of eye contact, seek prompt medical attention while rinsing is continued.

Notes for the doctor:

Treat symptomatically.

SECTION 5: Fire-fighting measures

Extinguishing media

Suitable extinguishing media:

Water mist/fog, carbon dioxide, dry chemical or alcohol resistant foam.

Unsuitable extinguishing media:

Do not use water jet.

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Specific hazards during fire-fighting:

Thermal decomposition may produce irritating/toxic fumes/gases.

Special protective equipment for firefighters:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full-face piece operated in positive pressure mode.

Special precautions:

Avoid contact with skin, eyes, hair and clothing. Do not breathe fumes/gas/mists/aerosols/vapors/dusts. Move containers from fire area if safe to do so. Use water spray/fog for cooling fire exposed containers. Avoid unnecessary run-off of extinguishing media which may cause pollution.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Evacuate unnecessary personnel. Ventilate area. Extinguish any sources of ignition. Wear recommended personal protective equipment (see Section 8). Do not get on skin, eyes or on clothing. Avoid breathing mist, vapor, dust, fume and spray. Do not walk through spilled material. Wash thoroughly after handling. Remove contaminated clothing and launder before reuse.

Environmental precautions:

Prevent further leakage or spillage if safe to do so. Prevent from reaching drains, sewers and waterways. Discharge into the environment must be avoided.

Methods and material for containment and cleaning up:

Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Avoid breathing dust, mist, fumes, vapors or spray. Stop leak if you can do it without risk. Contain and collect spillage and place in suitable container for future disposal. Dispose of in accordance with all applicable regulations (see Section 13).

Reference to other sections:

For personal protective equipment see Section 8. For disposal see Section 13.

SECTION 7: Handling and storage

Precautions for safe handling:

Use appropriate personal protective equipment (see Section 8). Use only with adequate ventilation. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Do not get in eyes. Avoid contact with skin and clothing. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use.

Conditions for safe storage, including any incompatibilities:

Store in cool, dry, well-ventilated location out of direct sunlight. Keep away from food and beverages. Protect from freezing and physical damage. Store away from heat, open flames and other sources of ignition. Keep container tightly sealed. Store away from incompatible materials (See Section 10).

SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

Occupational Exposure limit values:

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Country (Legal Basis)	Substance	Identifier	Permissible concentration
Alberta	Sodium metabisulfite	7681-57-4	8-Hour TWA: 5 mg/m ³
	Hydroquinone	123-31-9	8-Hour TWA: 2 mg/m ³
British Columbia	Sodium metabisulfite	7681-57-4	8-Hour TWA: 5 mg/m ³
	Hydroquinone	123-31-9	8-Hour TWA: 1 mg/m ³
Manitoba	Sodium metabisulfite	7681-57-4	8-Hour TWA: 5 mg/m ³
	Hydroquinone	123-31-9	8-Hour TWA: 1 mg/m ³
Ontario	Sodium metabisulfite	7681-57-4	8-Hour TWA: 5 mg/m ³
	Hydroquinone	123-31-9	8-Hour TWA: 1 mg/m ³
Quebec	Sodium metabisulfite	7681-57-4	8-Hour TWA: 5 mg/m ³
	Hydroquinone	123-31-9	8-Hour TWA: 1 mg/m ³
Saskatchewan	Sodium metabisulfite	7681-57-4	8-Hour Contamination Limit: 5 mg/m ³
	Sodium metabisulfite	7681-57-4	15-Minute Contamination Limit: 10 mg/m ³
	Hydroquinone	123-31-9	8-Hour Contamination Limit: 2 mg/m ³
	Hydroquinone	123-31-9	15-Minute Contamination Limit: 4 mg/m ³
New Brunswick	Sodium metabisulfite	7681-57-4	8-Hour TWA: 5 mg/m ³
	Hydroquinone	123-31-9	8-Hour TWA: 2 mg/m ³
Canada	Potassium hydroxide	1310-58-3	Ceiling Limit: 2 mg/m ³ (Alberta)
	Potassium hydroxide	1310-58-3	Ceiling Limit: 2 mg/m ³ (British Columbia)
	Potassium hydroxide	1310-58-3	Ceiling Limit: 2 mg/m ³ (Manitoba)
	Potassium hydroxide	1310-58-3	Ceiling Limit: 2 mg/m ³ (Ontario)
	Potassium hydroxide	1310-58-3	Ceiling Limit: 2 mg/m ³ (Quebec)
	Potassium hydroxide	1310-58-3	Ceiling Limit: 2 mg/m ³ (Saskatchewan)

Biological limit values:

No biological exposure limits noted for the ingredient(s).

Information on monitoring procedures:

Not determined or not applicable.

Appropriate engineering controls:

Emergency eye wash stations and safety showers should be available in the immediate vicinity of use or handling. Provide adequate ventilation to maintain the airborne concentrations of vapor, mists, and/or dusts below the applicable workplace exposure limits, while observing recognized national standards (or equivalent).

Personal protection equipment

Eye and face protection:

Use safety glasses with side shields or goggles. Consider the use of a face shield for splash protection. Use eye protection equipment that has been tested and approved by recognized national standards (or equivalent).

Skin and body protection:

Chemical resistant, impervious gloves approved by the appropriate standards. Gloves must be inspected prior to use. Considering the parameters specified by the glove manufacturer, check during use that the

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gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. Avoid skin contact with used gloves. Appropriate techniques should be used to remove used gloves and contaminated clothing. Full body protection should be worn. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Ensure that all personal protective equipment is approved by recognized national standards (or equivalent).

Respiratory protection:

If engineering controls do not maintain airborne concentrations below the applicable workplace exposure limits, or to an acceptable level (if exposure limits have not been established), a respirator approved by recognized national standards (or equivalent) must be worn. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

General hygienic measures:

When handling chemical products, do not eat, drink or smoke. Wash hands after handling, before breaks, and at the end of the workday. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Perform routine housekeeping.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance (physical state, color):	Light red liquid
Odor:	Odorless
Odor threshold:	Not determined or not available.
pH-value:	10.2
Melting/Freezing point:	< 0 °C / 32 °F
Boiling point/range:	> 100 °C / 212 °F
Flash point:	Not determined or not available.
Evaporation rate:	Not determined or not available.
Flammability (solid, gaseous):	Not determined or not available.
Explosion limit upper:	Not determined or not available.
Explosion limit lower:	Not determined or not available.
Vapor pressure:	<17 mm Hg
Vapor density:	0.6 mm Hg
Density:	Not determined or not available.
Relative density:	1.08
Solubilities:	Completely soluble in water.
Partition coefficient (n-octanol/water):	Not determined or not available.
Auto/Self-ignition temperature:	Not determined or not available.
Decomposition temperature:	Not determined or not available.
Dynamic viscosity:	Not determined or not available.
Kinematic viscosity:	Not determined or not available.
Explosive properties	Not determined or not available.

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Oxidizing properties	Not determined or not available.
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Other information

% Volatile (By volume)	80 - 90 % as water
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SECTION 10: Stability and reactivity

Reactivity:

Not reactive under recommended handling and storage conditions.

Chemical stability:

Stable under recommended handling and storage conditions.

Possibility of hazardous reactions:

Hazardous reactions are not anticipated under recommended conditions of handling and storage.

Conditions to avoid:

Extreme heat, open flames, hot surfaces, sparks, ignition sources and incompatible materials.

Incompatible materials:

Strong oxidizing agents, strong acids.

Hazardous decomposition products:

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

Acute toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data:

Name	Route	Result
Sodium metabisulfite	oral	LD50 Rat: 1131 mg/kg
	inhalation	LC50 Rat: > 5.5 mg/L (4 hr [dust/aerosol])
	dermal	LD50 Rat: > 2000 mg/kg
Potassium hydroxide	oral	LD50 Rat: 273 mg/kg
Hydroquinone	oral	LD50 Rat: 367.3 mg/kg
	dermal	LD50 Rabbit: > 2000 mg/kg

Skin corrosion/irritation

Assessment:

Causes skin irritation.

Product data:

No data available.

Substance data:

Name	Result
Potassium hydroxide	Causes severe skin burns.

Serious eye damage/irritation

Assessment:

Causes serious eye damage.

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Product data:

No data available.

Substance data:

Name	Result
Sodium metabisulfite	Causes serious eye damage.
Potassium hydroxide	Causes serious eye damage.
Hydroquinone	Causes serious eye damage.

Respiratory or skin sensitization

Assessment:

May cause an allergic skin reaction.

Product data:

No data available.

Substance data:

Name	Result
Hydroquinone	May cause an allergic skin reaction.

Carcinogenicity

Assessment:

Suspected of causing cancer.

Product data: No data available.

Substance data:

Name	Species	Result
Hydroquinone		Suspected of causing cancer.

International Agency for Research on Cancer (IARC):

Name	Classification
Water	Not Applicable
Sodium metabisulfite	Group 3
Potassium hydroxide	Not Applicable
Hydroquinone	Group 3

National Toxicology Program (NTP):

Name	Classification
Water	Not Applicable
Sodium metabisulfite	Not Applicable
Potassium hydroxide	Not Applicable
Hydroquinone	Not Applicable

Germ cell mutagenicity

Assessment:

Suspected of causing genetic defects.

Product data:

No data available.

Substance data:

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Name	Result
Hydroquinone	Suspected of causing genetic defects.

Reproductive toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Specific target organ toxicity (single exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Specific target organ toxicity (repeated exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Aspiration toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Information on likely routes of exposure:

Skin and eye contact, ingestion, inhalation.

Symptoms related to the physical, chemical and toxicological characteristics:

See section 4 of this SDS.

Other information:

No data available.

SECTION 12: Ecological information

Acute (short-term) toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data:

Name	Result
Sodium metabisulfite	Fish LC50 <i>Oncorhynchus mykiss</i> : 147 - 215 mg/L (96 hr)
	Aquatic Invertebrates EC50 <i>Daphnia magna</i> : 89 mg/L (48 hr)
	Aquatic Plants EC50 <i>Desmodosmus subspicatus</i> : 43.8 mg/L (72 hr)
Hydroquinone	Fish LC50 <i>Oncorhynchus mykiss</i> (rainbow trout): 0.638 mg/L (96 hr)
	Aquatic Invertebrates EC50 <i>Daphnia magna</i> (Water flea): 0.061 mg/L (48 hr)
	Aquatic Plants EC50 <i>Pseudokirchneriella subcapitata</i> (green algae): 0.041 mg/L (72 hr)

Chronic (long-term) toxicity

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Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data:

Name	Result
Sodium metabisulfite	Aquatic Invertebrates NOEC Daphnia magna: > 10 mg/L (21 d)
Hydroquinone	Aquatic Invertebrates NOEC Daphnia magna: 0.003 mg/L (21 d)

Persistence and degradability

Product data: No data available.

Substance data:

Name	Result
Sodium metabisulfite	The substance is an inorganic compound and is not subject to biodegradation.
Potassium hydroxide	The study on degradability does not need to be conducted as the substance is inorganic.
Hydroquinone	This substance is readily biodegradable in water (calculated 80% degradation after 28 days, test mat. analysis).

Bioaccumulative potential

Product data: No data available.

Substance data:

Name	Result
Sodium metabisulfite	Because of the highly anionic nature of the substance and its instability in aqueous media, aquatic bioaccumulation is unlikely, and testing is not considered necessary.
Potassium hydroxide	Not expected to bioaccumulate, as it completely dissociates in water.
Hydroquinone	Accumulation in organisms is not to be expected (calculated BCF: 3.162 L/kg; log Kow: 0.59).

Mobility in soil

Product data: No data available.

Substance data:

Name	Result
Sodium metabisulfite	Because of the anionic nature, any quantitatively relevant adsorption onto soil, sediments or suspended matter for disodium disulfite as well as its dissociation products is not to be expected.
Potassium hydroxide	Low potential for adsorption. If emitted to surface water, sorption to sediment will be negligible.
Hydroquinone	This substance is mobile; therefore, adsorption to soil is not expected (Calculated Koc 38.47/log Koc: 1.585).

Results of PBT and vPvB assessment

Product data:

PBT assessment: This product does not contain any substances that are assessed to be a PBT.

vPvB assessment: This product does not contain any substances that are assessed to be a vPvB.

Substance data:

PBT assessment:

Sodium metabisulfite	PBT assessment is not required for inorganic substances such as this.
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Potassium hydroxide	The substance is not PBT.
Hydroquinone	Though hydroquinone fulfills the criteria for toxic substances, the data indicate that hydroquinone does not fulfill the criteria for persistent and bioaccumulative (PBT-substances).

vPvB assessment:

Sodium metabisulfite	vPvB assessment is not required for inorganic substances such as this.
Potassium hydroxide	The substance is not vPvB.
Hydroquinone	Though hydroquinone fulfills the criteria for toxic substances, the data indicate that hydroquinone does not fulfill the criteria for very persistent and very bioaccumulative substances (vPvB-substances).

Other adverse effects: No data available.

SECTION 13: Disposal considerations

Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities

Contaminated packages:

Not determined or not applicable.

SECTION 14: Transport information

Canadian Transportation of Dangerous Goods (TDG)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

International Maritime Dangerous Goods (IMDG)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None

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Environmental hazards	None
Special precautions for user	None

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	
Bulk Name	None
Ship type	None
Pollution category	None

SECTION 15: Regulatory information

Canada regulations

Domestic substances list (DSL): All ingredients are listed or exempt.

Non-domestic substances list (NDSL): None of the ingredients are listed.

Additional information: Not determined.

SECTION 16: Other information

Abbreviations and Acronyms: None

Disclaimer:

This product has been classified in accordance with the Canadian Hazardous Products Regulations and WHMIS 2015. The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation and disposal and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

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Revision Notes:

Revision Date	Notes
2022-03-18	Rev. 2

End of Safety Data Sheet



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Patterson Fixer Solution

SECTION 1: Identification

Product identifier

Product name: Patterson Fixer Solution

Product code: 070911909, 070911990, 070911958

Recommended use of the product and restriction on use

Relevant identified uses: Photographic solution

Uses advised against: Not determined or not applicable.

Reasons why uses advised against: Not determined or not applicable.

Manufacturer or supplier details

Supplier:

Canada

Patterson Dentaire Canada Inc.
1205 boul Henri-Bourassa West
Montreal, Quebec H3M 3E6
+1 514-745-4040

Emergency telephone number:

Canada

CHEMTREC

Within USA and Canada: 1-800-424-9300 (24 hours)

Outside USA and Canada: +1-703-527-3887 (24 hours)

SECTION 2: Hazard identification

GHS classification: Not a hazardous substance or mixture

Label elements

Hazard pictograms: None

Signal Word: None

Hazard statements: None

Precautionary statements: None

Hazards not otherwise classified:

None

SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
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CAS number: 7732-18-5	Water	90-95
CAS number: 7783-18-8	Diazanium;dioxido-oxo-sulfanylidene- λ 6-sulfan	8-12
CAS number: 7757-83-7	Sodium sulfite	<2
CAS number: 127-09-3	Sodium acetate	<2

Additional Information:

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret in accordance with the Canadian Hazardous Products Regulation and WHMIS 2015.

SECTION 4: First-aid measures

Description of first-aid measures

General notes:

Show this Safety Data Sheet to the doctor in attendance.

After inhalation:

If inhaled, remove person to fresh air and place in a position comfortable for breathing. If respiratory symptoms develop or persist, seek medical advice/attention.

After skin contact:

Wash affected area with plenty of soap and water. Remove contaminated clothing and launder before reuse. If skin irritation develops or persists, seek medical advice/attention.

After eye contact:

Immediately rinse eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes. If eye irritation develops or persists, seek medical advice/attention.

After ingestion:

If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse mouth with water. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs, place on the left side with head down to prevent aspiration of liquid into the lungs. If symptoms develop or persist, seek medical advice/attention.

Most important symptoms and effects, both acute and delayed

Acute symptoms and effects:

Not determined or not available.

Delayed symptoms and effects:

Not determined or not available.

Immediate medical attention and special treatment

Specific treatment:

Not determined or not available.

Notes for the doctor:

Treat symptomatically.

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Patterson Fixer Solution

SECTION 5: Fire-fighting measures

Extinguishing media

Suitable extinguishing media:

Water mist/fog, carbon dioxide, dry chemical or alcohol resistant foam.

Unsuitable extinguishing media:

Do not use water jet.

Specific hazards during fire-fighting:

Thermal decomposition may produce irritating/toxic fumes/gases.

On combustion, forms carbon oxides (CO and CO₂), sulphur oxides and ammonia.

Special protective equipment for firefighters:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA).

Special precautions:

Avoid contact with skin, eyes, hair and clothing. Do not breathe fumes/gas/mists/aerosols/vapors/dusts.

Move containers from fire area if safe to do so. Use water spray/fog for cooling fire exposed containers.

Avoid unnecessary run-off of extinguishing media which may cause pollution.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Evacuate unnecessary personnel. Ventilate area. Extinguish any sources of ignition. Wear recommended personal protective equipment (see Section 8). Avoid contact with skin, eyes and clothing. Avoid breathing mist, vapor, dust, fume and spray. Do not walk through spilled material. Wash thoroughly after handling.

Environmental precautions:

Prevent further leakage or spillage if safe to do so. Prevent from reaching drains, sewers and waterways. Discharge into the environment must be avoided.

Methods and material for containment and cleaning up:

Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Stop leak if you can do it without risk. Contain and collect spillage and place in suitable container for future disposal. Dispose of in accordance with all applicable regulations (see Section 13).

Reference to other sections:

For personal protective equipment see Section 8. For disposal see Section 13.

SECTION 7: Handling and storage

Precautions for safe handling:

Use appropriate personal protective equipment (see Section 8). Use only with adequate ventilation. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid contact with skin, eyes and clothing. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use.

Conditions for safe storage, including any incompatibilities:

Store in cool, dry, well-ventilated location out of direct sunlight. Keep away from food and beverages. Protect from freezing and physical damage. Store away from heat, open flames and other sources of ignition. Keep container tightly sealed. Store away from incompatible materials (See Section 10).

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SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

Occupational Exposure limit values:

No occupational exposure limits noted for the ingredient(s).

Biological limit values:

No biological exposure limits noted for the ingredient(s).

Information on monitoring procedures:

Not determined or not applicable.

Appropriate engineering controls:

Emergency eye wash stations and safety showers should be available in the immediate vicinity of use or handling. Provide adequate ventilation to maintain the airborne concentrations of vapor, mists, and/or dusts below the applicable workplace exposure limits, while observing recognized national standards (or equivalent).

Personal protection equipment

Eye and face protection:

Safety glasses or goggles. Use eye protection equipment that has been tested and approved by recognized national standards (or equivalent).

Skin and body protection:

Chemical resistant, impervious gloves approved by the appropriate standards. Gloves must be inspected prior to use. Avoid skin contact with used gloves. Appropriate techniques should be used to remove used gloves and contaminated clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Ensure that all personal protective equipment is approved by recognized national standards (or equivalent).

Respiratory protection:

If engineering controls do not maintain airborne concentrations below the applicable workplace exposure limits, or to an acceptable level (if exposure limits have not been established), a respirator approved by recognized national standards (or equivalent) must be worn.

General hygienic measures:

When handling chemical products, do not eat, drink or smoke. Wash hands after handling, before breaks, and at the end of the workday. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Perform routine housekeeping.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance (physical state, color):	Light blue liquid
Odor:	Slight vinegar odor
Odor threshold:	Not determined or not available.
pH-value:	4.4
Melting/Freezing point:	< 0 °C / 32 °F
Boiling point/range:	> 100 °C / 212 °F
Flash point:	Not determined or not available.

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Evaporation rate:	Not determined or not available.
Flammability (solid, gaseous):	Not determined or not available.
Explosion limit upper:	Not determined or not available.
Explosion limit lower:	Not determined or not available.
Vapor pressure:	< 17 mm Hg
Vapor density:	0.6 mm Hg
Density:	Not determined or not available.
Relative density:	1.085
Solubilities:	Completely soluble in water.
Partition coefficient (n-octanol/water):	Not determined or not available.
Auto/Self-ignition temperature:	Not determined or not available.
Decomposition temperature:	Not determined or not available.
Dynamic viscosity:	Not determined or not available.
Kinematic viscosity:	Not determined or not available.
Explosive properties	Not determined or not available.
Oxidizing properties	Not determined or not available.

Other information

% Volatile (By volume)	80 - 90 % as water
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SECTION 10: Stability and reactivity

Reactivity:

Not reactive under recommended handling and storage conditions.

Chemical stability:

Stable under recommended handling and storage conditions.

Possibility of hazardous reactions:

Hazardous reactions are not anticipated under recommended conditions of handling and storage.

Conditions to avoid:

Extreme heat, open flames, hot surfaces, sparks, ignition sources and incompatible materials.

Incompatible materials:

Strong reducing agents and strong bases.

Hazardous decomposition products:

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

Acute toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data:

Name	Route	Result
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Name	Route	Result
Diazanium;dioxido-oxo-sulfanylidene- λ 6-sulfan	oral	LD50 Rat: > 2000 mg/kg
	dermal	LD50 Rabbit: > 2000 mg/kg
	inhalation	LC50 Rat: > 2.6 mg/kg (4 hr [aerosol])
Sodium sulfite	inhalation	LC50 Rat: > 5.5 mg/L (4 h [Dusts/Mists])
	oral	LD50 Mouse: 820 mg/kg
	dermal	LD50 Rat: > 2000 mg/kg
Sodium acetate	oral	LD50 Rat: 2015.4 mg/kg
	dermal	LD50 Rabbit: > 10,000 mg/kg
	inhalation	LC50 Rat: > 5.6 mg/L (4 hr [aerosol])

Skin corrosion/irritation

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Serious eye damage/irritation

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Respiratory or skin sensitization

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Carcinogenicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

International Agency for Research on Cancer (IARC):

Name	Classification
Water	Not Applicable
Diazanium;dioxido-oxo-sulfanylidene- λ 6-sulfan	Not Applicable
Sodium sulfite	Group 3
Sodium acetate	Not Applicable

National Toxicology Program (NTP):

Name	Classification
Water	Not Applicable
Diazanium;dioxido-oxo-sulfanylidene- λ 6-sulfan	Not Applicable
Sodium sulfite	Not Applicable

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Name	Classification
Sodium acetate	Not Applicable

Germ cell mutagenicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Reproductive toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Specific target organ toxicity (single exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Specific target organ toxicity (repeated exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Aspiration toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Information on likely routes of exposure:

No data available.

Symptoms related to the physical, chemical and toxicological characteristics:

No data available.

Other information:

No data available.

SECTION 12: Ecological information

Acute (short-term) toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data:

Name	Result
Diazanium;dioxido-oxo-sulfanylidene- λ 6-sulfan	Fish LC50 <i>Lepomis macrochirus</i> : 510 mg/L (96 hr)
	Aquatic Invertebrates EC50 <i>Americamysis bahia</i> : 80 mg/L (48 hr)
	Aquatic Plants EC50 <i>Pseudokirchneriella subcapitata</i> : > 100 mg/L (72 hr)

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Name	Result
Sodium sulfite	Fish LC50 Oncorhynchus mykiss: 149.6 mg/L (96 hr [read across])
	Aquatic Invertebrates EC50 Daphnia magna: 89 mg/L (48 hr [read across])
	Aquatic Plants EC50 Desmodemus subspicatus: 43.8 mg/L (72 hr [read across])
Sodium acetate	Fish LC50 Danio rerio: > 100 mg/L (96 hr)
	Aquatic Invertebrates EC50 Daphnia magna: > 385.3 mg/L (48 hr [read across, calculated])
	Aquatic Plants EC50 Skeletonema costatum: > 417.92 mg/L (72 hr [read across, calculated])

Chronic (long-term) toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data:

Name	Result
Diazanium;dioxido-oxo-sulfanylidene- λ 6-sulfan	Fish NOEC Danio rerio: \geq 316 mg/L (34 d)
	Aquatic Invertebrates NOEC Daphnia magna: > 10 mg/L (21 d)
Sodium sulfite	Aquatic Invertebrates NOEC Daphnia magna: > 10 mg/L (21 d [read across])

Persistence and degradability

Product data: No data available.

Substance data:

Name	Result
Diazanium;dioxido-oxo-sulfanylidene- λ 6-sulfan	Persistence assessment based on biodegradability is not relevant for metals and their inorganic compounds such as this substance.
Sodium sulfite	Persistence assessment based on biodegradability is not relevant for inorganic compounds such as this substance.
Sodium acetate	This substance is readily biodegradable in water (99% degradation after 28 days, DOC removal).

Bioaccumulative potential

Product data: No data available.

Substance data:

Name	Result
Diazanium;dioxido-oxo-sulfanylidene- λ 6-sulfan	Because of the highly anionic nature of thiosulfates and their instability in aqueous media, aquatic bioaccumulation is unlikely, and testing is not considered necessary.
Sodium sulfite	Bioaccumulation assessment using a classic BCF assessment is not considered relevant for essential elements such as this substance.
Sodium acetate	Bioaccumulation assessment using a classic BCF assessment is not considered relevant since the substance has a low potential for bioaccumulation ($\log Pow < 3$).

Mobility in soil

Product data: No data available.

Substance data:

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Name	Result
Diazanium;dioxido-oxo-sulfanylidene-λ6-sulfan	Thiosulfates as well as their degradation products are present in the environment largely in dissociated anionic form. Because of their polarity, a very low logPow value can be expected with a correspondingly low predicted adsorption onto solid phases.
Sodium sulfite	Mobility in soil assessment based on KOC/Kd values are not relevant for inorganic compounds such as this substance.
Sodium acetate	This substance is highly mobile; therefore, adsorption to soil is not expected (Koc: 1 L/kg).

Results of PBT and vPvB assessment

Product data:

PBT assessment: This product does not contain any substances that are assessed to be a PBT.

vPvB assessment: This product does not contain any substances that are assessed to be a vPvB.

Substance data:

PBT assessment:

Diazanium;dioxido-oxo-sulfanylidene-λ6-sulfan	PBT assessment does not apply of the highly anionic nature of thiosulfates and their instability in aqueous media.
Sodium sulfite	PBT assessment does not apply as the substance is inorganic.
Sodium acetate	This substance is not PBT.

vPvB assessment:

Diazanium;dioxido-oxo-sulfanylidene-λ6-sulfan	vPvB assessment does not apply of the highly anionic nature of thiosulfates and their instability in aqueous media.
Sodium sulfite	vPvB assessment does not apply as the substance is inorganic.
Sodium acetate	This substance is not vPvB.

Other adverse effects: No data available.

SECTION 13: Disposal considerations

Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities

Contaminated packages:

Not determined or not applicable.

SECTION 14: Transport information

Canadian Transportation of Dangerous Goods (TDG)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

International Maritime Dangerous Goods (IMDG)

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UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Bulk Name	None
Ship type	None
Pollution category	None

SECTION 15: Regulatory information

Canada regulations

Domestic substances list (DSL): All ingredients are listed or exempt.

Non-domestic substances list (NDSL): None of the ingredients are listed.

Additional information: Not determined.

SECTION 16: Other information

Abbreviations and Acronyms: None

Disclaimer:

This product has been classified in accordance with the Canadian Hazardous Products Regulations and WHMIS 2015. The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation and disposal and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

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End of Safety Data Sheet